

A Model Environmental Nation? Canada as a Case Study for Informing US Environmental Policy

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When considering Canadian environmental policy from the perspective of a scholar in the United States, Canadian Studies programs should be prepared to address the inevitable questions that might arise such as: why would (should) one be interested in considering Canada as a case study for understanding environmental policy?¹ What is happening in Canadian environmental policy that US scholars might want to place on the research agenda? It seems an appropriate response would be that Canada is an excellent case study for a wide variety of environmental issues and policy actions. If the question from so many in the US is “why Canada,” the answer from the US academic community should be a resounding, “why not!” It is a model² nation in which the US academic, non-governmental and policy communities could learn a great deal about issues that are of great concern to a US audience and about strategies and institutions that offer alternatives to the current environmental policy approaches in the US. The Canadian case creates the possibility for genuinely new approaches south of the border. This article will explore a variety of Canadian environmental issues and policies to highlight a number of research areas that would enhance US environmental policy and process if they were to be considered as case studies.³ For the purposes of inquiry one can divide these policies/issues into those areas in which the US has very substantial interests in the Canadian environmental issues and those in which Canadian approaches to environmental strategy or institution building might offer insight into alternative approaches Americans might utilize to deal with similar problems in the United States. All of the issues and policies raised here merit further research consideration and offer wonderful opportunities for teaching students in the United States about issues and policies in the environmental field.

Shared resource issues—good neighbors?

In the area of environmental policy, Canada is a model nation because of the tremendous overlap of resources and landscape shared by the two countries. Canada and the United States share the longest border for the United States and the only land border for Canada. As such, the landscape on either side of the border is remarkably similar. The first international peace park established in the world at Glacier-Waterton Lakes recognizes this difficulty of distinction and jointly manages a landscape in both countries as if it was one biotic community. Such joint management of resources that are shared in common might be an excellent place to start a research agenda on how two sovereign entities might share responsibility and stewardship through a common environmental policy. The peace park

is, of course, hardly the only resource held in common. Water from the Strait of Juan de Fuca, the Yukon, Colombia and Red River Watersheds, the Great Lakes, the St. Lawrence Seaway, and the Gulf of Maine routinely flows back and forth across the border. The air, and any pollution it might carry, does not respect the border checkpoints, often carrying sulfur and other pollutants from US industries to rain down as acid in Canadian lakes and forests. The populations of the two countries have routinely moved back and forth across the border, even before there was a border in the case of the First Nations. More than 75 percent of the Canadian population lives in this borderland within 150 miles of the United States, but the same is not true of the United States population. In short, the interaction and shared resources of earth, air, water, and people makes the environmental implications of Canadian policy of obvious interest for the United States, and yet it is routinely ignored south of the border.

For political economists, the prominent role of Canadian trade and exchange in natural resources and other products within the US economy should make Canadian action regarding these resources of great interest. For example, Canada is the number one source of imports for a wide variety of resources in the US economy, including wood (five times as much as the next largest source), feedstuff and feed grains (also five times the size of the next largest source), fish and shellfish, fertilizers, pesticides and insecticides, a host of metals including gold, copper, nickel, bauxite and aluminum, and several energy resources such as natural gas (10 times the amount from the second largest source), fuel oil, food oils, and oil seeds, and the number two source in crude oil mostly from the Alberta oil sands (Nation Master Statistics 2010). Not only is Canada one of the largest trading partners overall with the US economy, on critical natural resources it is *the* source in the US economy. How Canada shapes environmental policies toward the access, development, and export of those resources is vital to US interests even if the average citizen remains oblivious to that fact.

One of the ways in which the US academic community might succeed in this comparative environmental research agenda is to explore important case studies in Canadian environmental policy that are of vital interest to a US audience. First and foremost on this agenda for a myriad of reasons would be the oil sands development in northern Alberta. Other important case studies in Canada would include the shared marine resources such as salmon in the Atlantic and Pacific oceans, Canada's shifting position on climate change, and the development of resources and travel in the Arctic area known as the Northwest Passage. Surely there are other cases of Canadian policy on shared resources, but this is a good start to the research agenda.

Oil sands

The development of natural resources in the distant, remote western landscapes of Canada and the United States is not a new phenomenon. The history of the western lands of North America is a story of seemingly endless boom and bust cycles tied to the development of these resources. Populations rise and fall with the hopes and dreams of the region. When considering resource development in rural areas of North America, the most recent boom in the development of oil and natural gas resources in Alberta and Colorado is an excellent comparative environmental policy case study.

Alberta and Colorado share remarkably similar ecology, vistas, and geology. Both encompass part of the Rocky Mountains and part of the great plains/prairies. Geologically, both places are rich in natural resources including timber, precious minerals, coal, natural gas, and some oil deposits. In the case of Albertan oil sands production, the scale

of the resource itself seems beyond comprehension. Alberta is Canada's largest producer of oil and natural gas, accounting for 70 percent of the Canadian total production of the resources. It has the largest oil sands deposits in the world, thought to rival Saudi Arabia in total reserves with a potential of as much as 315 billion barrels of conventional oil from the deposits (Brownsey 2005). By 2001, oil production in Alberta was already 1.53 million barrels per day and the Alberta Energy and Utilities Board (AEUB) expects that number to triple by 2011 (Brownsey 2005). Other estimates put output from oil sands alone at 3 million barrels a day by 2015 (Canada Newswire 2006). A common problem in both cases is the difficulty of transporting energy resources from the point of extraction to the point of consumption due to the great distances that must be traversed from wellhead to market (Brownsey 2005; Maffly 2003). Recently the US State Department has been considering the request to build a \$12 billion expansion to the Keystone-XL pipeline linking Northern Alberta and the oil sands with the US Gulf Coast. Senator Lindsey Graham (R-South Carolina) recently toured the oil sands and House Speaker Nancy Pelosi met with the Harper government in Ottawa on the issue in September 2010, indicating interest and support for developing the oil sands at the highest level in the US federal legislature.

The fate of both regions is tied to the appetite for fossil fuel consumption that drives continental and global energy markets. After the Canadian-US Free Trade Agreement of 1989 effectively deregulated the national control of energy prices and the oil and gas industry, producers on both sides of the border have responded to the same international market and price stability (or volatility as the case may be) (Brownsey 2005). Ninety percent of Alberta's exports (70 percent of which are energy related) are destined for markets in the United States (Gartner December 2006). Nearly 100 percent of the US imports of natural gas (15 percent of its consumption) and 15 percent of the oil imports into the US come from Canada. The increased cost of resource extraction and changes in technology for that extraction have reduced the portion of the costs that are within the control of local leaders, thus decreasing their ability to manage the rate and impact of the growth in energy development in their region (W. Freudenberg 1992). The increasing scale of corporations involved in resource extraction also increases the likelihood that governmental bureaucracies will become captured by the interests of these corporations rather than the interests of the populations or environment affected by the extraction (Stedman, Parkins, and Beckley 2004).

Those who study security issues suggest that the future of US energy security is dependent on finding "safe" and stable sources of energy, particularly petroleum. The oil sands of Alberta can go a long way toward ensuring that source. The oil sands are also worth considering in terms of environmental policy because of the tremendous production of greenhouse gases that emerge as a result of the extraction and processing of the bitumen. Of course, there are also the concerns that have been raised regarding the pollution of the process, including contamination of water quality in the Athabasca watershed and the impact of these pollutants, as well as development as a whole on the traditional lifestyles of First Nations in Alberta and BC. The stakes, like all other aspects of the scale of this issue, are simply too great for anyone interested in environmental policy north or south of the border to ignore in their research, but it is hardly the only issue of common resources to which we must pay attention.

Salmon farms and fisheries

The United States and Canada have been trying to coordinate fisheries shared in their coastal waters for many years. They have successfully negotiated regimes to deal with

fish stock and access to these fisheries. Although there has been disagreement as to the number of fish that can be sustainably harvested from the Grand Banks and Pacific Coast fisheries, and mutual blame when those fisheries collapsed, perhaps no shared fish resource has been as contentious as the Atlantic and Pacific salmon stocks. As salmon move back and forth from the fresh water rivers of North America to the open oceans on both coasts during their life cycle, they face threats not only from pollution and over-fishing in the ocean, but pollution and dam construction in the rivers as well. Dams built for hydro-electric power generation and irrigation of farmland north and south of the border have prevented many salmon from reaching their traditional spawning grounds and keep fry from returning to the ocean to mature. These developments in Canada and the United States have devastated the salmon stock in the last century. Agricultural runoff and soil erosion as a result of timber harvest have also contributed to the decline in wild salmon by polluting the rivers needed for regeneration of the stock. Overfishing in the oceans has ensured that even the wild salmon that survive the rivers might not live long enough to return and complete their life cycle. These salmon stocks are of great concern to the fishing communities in the United States that depend on them, the native populations that see them as integral to their culture, the scientists and environmentalists interested in healthy ecosystems built on the annual migration of salmon, and the growing salmon consumer market across the United States. Stakeholders in the United States cannot act alone to maintain these stocks and thus must rely on Canadian environmental policy to protect their interests.

Threats to the salmon stocks in the Atlantic and Pacific have triggered a number of unilateral and bilateral policies to preserve the remaining wild salmon. Some examples of these policies include the removal of dams, the construction of “fish ladders” to bypass the dams, the banning of logging in erosion-sensitive areas, quotas on fish catch in the ocean, and other limitations on development activity that might be detrimental to the salmon migration and life cycle. Since the 1980s Canada has also tried to mitigate the scarcity of salmon in the market by allowing the agricultural production of salmon in “farms” off both coasts. There are some farms in the United States (six in Maine and a few in Washington), but the majority of salmon farms in North America are off the coasts of Canada (some 280 farms producing 96,000 tons of salmon each year). About 70 percent of the produced salmon goes to US markets (*Seattle Times* 2006). Salmon resource management in Canada becomes a matter of trade, public health, and environmental concern in the United States. Problems with farm-raised salmon include the increased concentrations of sea lice that threaten juvenile wild salmon in nearby waters, and the concentration of waste below the farms that can affect ocean chemistry. The salmon question also raises an interesting case of the role of federalism in Canadian environmental policy. Recently British Columbia was sued over its attempts to regulate salmon farms and grant new licenses as it would to any natural resource production on Crown lands within the province. The courts have ruled that provincial control of natural resources on public lands extends only to the land itself; regulation in ocean waters (even those adjacent to the coast) is a matter of marine policy that falls squarely within the domain of the federal government (Libin 2010). Canada uniquely distributes control over the natural resources on public lands to the provinces, but energy, marine, and other environmental policy remain with Ottawa. This makes the salmon farms in Canada a rich study in the federal balance between local and central power. Given the challenges of US federalism regarding environmental policy and the control of lands, there is much for a policymaker to gain from a comparative study of Canadian salmon policy.

Climate change position

While some scholars would suggest that the Canadian position on climate change was not as multilateral at the time of Kyoto as might be assumed by their ratification of the treaty (Selin and Vandever 2005), the fact remains that Canada did sign and ratify the Kyoto Protocol on Climate Change, committing themselves to a 6 percent reduction below 1990 carbon emission levels. This commitment was in keeping with a long tradition of Canadian public support of international carbon reduction efforts dating back to the Rio Summit in 1992 when Canada announced that it had a “special responsibility to lead by example” because it is a wealthy, technologically advanced country having one of the highest carbon emissions per capita in the world (Litfin 2000). This fits into part of a larger image Canada fostered in its foreign policy as a world leader on environmental issues, such as hosting the conference in 1987 that led to the signing of the Montreal Protocol on Substances that Deplete the Ozone Layer, as well as earlier conferences on climate change and other environmental issues (Litfin 2000). Canadian foreign policy has traditionally been defined by its support of multilateral solutions, which is why it came as a surprise to many inside and outside Canada when the government announced that it would not be able to keep its commitment to the Kyoto target reductions. Further, Canada set the precedent of adopting much later baseline standards in its recent propositions to base its reductions on 2006 levels of emissions, not the 1996 levels of Kyoto.

These changes in environmental policy approaches at the international level are worth studying to see their effect on Canadian soft power and reputation in the international arena. Does this shift in Canadian approach to the issue of climate change reflect a change in public support for action on climate change? One of the reasons given for this change is that the United States is not moving forward on the issue, and to the extent that Canada is deeply tied into US markets, to act on carbon reductions would put Canadian firms at a disadvantage. While the US Congress has not been able to pass any legislation addressing the carbon production problem, the US administration seems intent on reengaging the world on multilateral efforts to address the problem of climate change. How are elements within the Canadian government responding to the changes in US policy on climate change?

Arctic: Northwest Passage

The issue of climate change and its impact has particular resonance in Canadian environmental policy because of the disproportionate increase in global temperature already experienced at the poles of the planet. As a consequence, polar ice is melting much faster than it is produced, particularly in the Arctic, where the retreat of summer sea ice has been measurable and increasing in the last several years. Much of this sea ice in the Arctic covers the island archipelago of Northern Canada and the waterways that separate them. Each year, more and more of the summer ice is disappearing, revealing more open water between Canada’s northernmost islands. One such passage across the top of Canada is referred to as the Northwest Passage and would cut more than 5000 miles off a trip from Europe to Asia. The commercial opportunities for shipping in these newly opened waters would be tremendous, although currently only a few ships make the journey every year because of the danger of floating ice in the passages coming down from farther north. The failure of the international community to take decisive action on climate change means that Canada is likely to face a growing issue of the Northwest Passage and all the challenges to that fragile ecosystem that come with increased shipping, resource development, and population in the northern cities, which will only grow into the future.

The United States is very interested in the development of the Northwest Passage because Alaska's north shore and all of its oil production is in the path of this transit. This interest has led to a great deal of disagreement between the two countries as Canada asserts its sovereignty over the islands and the sea between them, while the US argues that they are international waters and as such should be open to shipping and trade under the Law of the Sea treaty (Elliot-Meisel 2009). Not only is this dispute fascinating from the perspective of international law and relations between states, it is also an important case study due to the extremely fragile ecosystem in the area, both on land and sea. There are huge estimates of deposits of oil, natural gas, and minerals underneath the Northwest Passage. The USGS estimates there are 30 billion barrels of oil under the sea in this area (Elliot-Meisel 2009). The First Nations in the north are also caught up in the fight to slow commercial development of these lands. They claim that any increase in development of the area is likely to bring deleterious impacts to the land and seascapes. The stakes for the environment are high if there is a spill in the passage, an increase in the noise of ships impacting the sea mammals, or a permanent presence and resource extraction in the permafrost. Canada currently seems to be developing this dispute over the Northwest Passage in a discursive realm of sovereignty and national security. If it were to be cast in the realm and discourse of environmental policy, it might change the tenor of information and argument on all sides. Certainly it is a great case study for how policy is affected by the landscape itself and the unintended consequences of other environmental issues such as climate change.

The laws governing the Arctic have not kept pace with the changes brought on by the melting sea ice. Forty years ago, Canada passed the Arctic Waters Pollution Prevention Bill (1970) in order to protect the fragile ecosystem of the Arctic. At that point the idea that the summer sea ice would melt enough as a result of global climate change so a large oil tanker could regularly sail through the Northwest Passage was the sort of speculative "science fiction" that serious policy-makers would dismiss as too improbable to account for in the legislation. In the last several years, that improbable scenario has become a yearly reality. The case of the Northwest Passage illustrates the need to revisit environmental protection laws in light of substantial alterations to ecosystems and habitats as a result of global climate change. It is not likely to be an anomaly, but a harbinger of things to come.

Canadian environmental strategies

Canadian environmental policy is also a tremendous area of research for developing alternatives for strategic action on environmental issues. William Chaloupka, a political scientist at Colorado State University suggests, "To study politics, at this date, is to study strategy" (2003). Although in many ways Canada is a similar case for environmental issues, the setting and institutional context (such as federalism and the control of resources or the size of the environmental movement) is different enough from the United States that interesting and instructive strategies have developed to address environmental issues. US environmental scholars and activists would be wise to consider the Canadian case in order to open up the imaginative possibilities of strategic action. These cases are not offered as an exhaustive list, but as examples of some of the possibilities of such a research agenda.

Charismatic mega-fauna and the Great Bear Rainforest

Although environmental issues have the potential to affect large constituencies and draw the public into the problem, they are often less obvious in their immediate impact on the

population. Thus the role of policy entrepreneurs and transnational advocacy networks is heightened in environmental issues (Keck and Sikkink 1998). Often the salience of an issue and the chance of it being placed on the public agenda are directly related to the size and the commitment of these advocacy networks. This is especially true if the advocates run into initial resistance at the local decision-making level and thus broaden their coalition to the national or international level (Keck and Sikkink 1998). A Canadian example of this successful broadening of a coalition from local environmentalists to the international community can be seen in the strategy employed by advocates in the Clayoquot Sound campaign of 1993 in British Columbia. At a local level, it was difficult for environmentalists to make headway against the well-entrenched logging industry in British Columbia; but broadening the coalition to include the First Nation Nuu-chah-nulth tribe and the international natural resource consumption market of Home Depot and the *New York Times* (among others), environmental advocates were able to break the grip of the timber industry on the BC political agenda (Magnusson and Shaw 2003).

Another successful strategy is the Canadian use of narrative to reframe the issue in a way that might be more appealing to a broad audience. A narrative needs characters that the public can identify and empathize with. Narratives move an issue from abstraction to appeal and thus increase the likelihood of its place on the political agenda (Schram and Neisser 1997). The greater the public sympathy for the characters of an issue narrative, the more likely they are to insist that the issue be placed on the public agenda. Canadian examples of this narrative character construction include the wolf of the Wood Bison National Park and the Spirit Bear of the Pacific Northwest (Carbyn 2003; Russell 1994).

Strategically, Canadians have long nurtured a connection to certain symbolic animals known as “charismatic mega-fauna” (CMF). Charismatic mega-fauna is a term used to describe large wildlife, generally mammals or birds, that have a particular appeal to humans. Examples include the loon on the Canadian Dollar (known as the “loony”), the horse used by the Canadian Mounties, the moose, the beaver, the salmon, and a wide variety of whales on both coasts. While an appeal to “cute and cuddly” wildlife is by no means uniquely Canadian, there are many advantages to utilizing issue linkage to CMF in a particular Canadian context. CMF are often used by environmental advocates to broaden their coalition for habitat preservation in and out of the halls of government (Weiss 2008). If species preservation or habitat preservation is to become a political reality, then the issue salience must be raised so that the issue can become part of the public political agenda. Visual images make CMF proximate to a global audience, and thus serve as a useful strategy for venue shopping and the building of transnational advocacy networks.

A model example of the Canadian use of CMF as a strategy to gain significant habitat preservation is the recent campaign to successfully create the Great Bear Rainforest along the coast of British Columbia. The Great Bear Rainforest is part of one of the largest remaining temperate rainforests in the world. It is threatened by the practice of clear-cut logging carried out by some of the most powerful logging companies in the world. Environmentalist campaigns against the logging companies’ practices encounter resistance at the provincial government level due to the tremendous influence of these logging companies on the provincial government. As such, the environmentalists have often met with only limited success in protecting these areas unless they change the venue of government action from the provincial level to a broader audience. In order to do this, they developed a campaign around the image of a CMF known as the Spirit Bear.

There are perhaps no more than a few hundred Spirit Bears in the entire world and all of them occur in the area (Russell 1994). The Spirit Bear occurs due to a double recessive gene that makes the normal black color of the bear appear white. The rareness of the Spirit

Bear lends itself to appeal as a CMF for the region. This appeal is enhanced due to the use of narrative regarding the spiritual quality of the bear in the First Nation stories of the region, although the act of appropriation of this spirituality is itself not without colonizing implications (Rossiter 2004). Nevertheless, its unique role in the spirituality of the local First Nations helped to transform it into CMF superstar status and was actively used to increase the issue salience of habitat preservation (Birch 2002).

The Spirit Bear became the *cause célèbre* for the entire campaign as the coalition was extended through the use of appeal to a broader audience including links to children through the use of story (Patent 2004). Children, who naturally connect with such appeals of CMF, were drawn into the “fight” to save the rainforest. The area, previously known as Central Coast Timber Area was renamed by the environmentalists as the Great Bear Rainforest in an effort to reframe the issue as one of species protection. This discursive shift was successfully solidified as the new official name of the area in 2001 when the provincial government began referring to the area as the Great Bear Rainforest in its announcement of an interim agreement to preserve the area (British Columbia: Office of the Premier 2001). With the support of the international community and their new First Nation partners, environmental advocates were able to change the terms of the debate and successfully negotiate protections in the area. Thus, the appeal for the preservation of a CMF in the form of the Spirit Bear in its native habitat served a vital strategic need to expand the transnational advocacy networks and raise issue salience in an area that had been previously managed to maximize timber revenue.

Regional and sub-national climate change

The shifting North American policy on climate change is also a useful case study of the effects of federalism in Canada and the United States. While international treaties such as the Kyoto Protocol are approved at the national level, they are often implemented at the state/provincial level, requiring cooperation between multiple levels of government to form effective public policy. To focus only on the president or the prime minister's personalities distorts the actual power dynamics at work in shaping the formation of climate policy. Further, sub-national actors (states, provinces, and cities) have not only been more innovative and active in the development of climate policy compared to their respective national governments in North America, but they have also been quite active in trans-national agreements on the climate issue. These trans-national agreements, as matters of foreign policy, had been the traditional domain of the national governments, but in the failure of these international actors to produce satisfying results on the issue (either not enough action or too much action depending on one's perspective), states and provinces have ventured into the realm of international accord. Thus, this case of North American climate change policy is also likely to be instructive for rethinking the role of regional actors on the international stage.

Climate policy or any other environmental policy in Canada is complicated by the decentralized nature of Canadian federalism. While the national government in Ottawa has the ability to negotiate international treaties for Canada, the provinces have control of most of the natural resources in the country and thus are absolutely essential to the implementation of any Canadian commitment to carbon emissions reduction (Harrison 2007). Constitutionally, the Cabinet has the authority to ratify treaties, without the Parliament, but Canada's Judicial Committee has ruled that the federal government could not guarantee implementation of treaties where the provinces have jurisdiction, such as with energy and natural resources. The provinces had to be consulted on the implementation of a treaty such

as the Kyoto Protocol (Litfin 2000). Some provinces such as Quebec embraced the reduction targets agreed to by the Canadian government in the Kyoto Protocol and furthered their own to a significant 20 percent of 1990 levels, albeit after the 2012 target timeframe outlined in Kyoto (Quebec 2006–2012 Climate Change Action Plan). Others such as Alberta countered Kyoto target reductions with its own “made in Alberta” climate policy that called for voluntary reductions and new technologies such as carbon sequestration. Alberta argues that it was not consulted on the ratification of Kyoto in Canada, and further, the treaty will undermine the province’s economic growth as it will seriously curtail the development of energy resources, particularly in the area of oil sands. The energy resource development in Alberta is a significant impediment to Canada meeting its commitments to this international treaty obligation by 2012 (Brownsey 2005). The maritime provinces, with their relatively low emission rates, lined up behind Quebec and began to join a number of cooperative ventures with states in the northeast part of the United States to address the climate issues, while western and prairie provinces tended to side with Alberta. Thus, the climate change issue seemed to be splitting Canada along traditional east-west fissures with Ontario trapped somewhere in the middle. Given this division, and the inability of the federal government to implement these reductions without the support of the provinces, it is little wonder why the Harper government began to back off commitments to Kyoto and future talks. Of course, it did not help that Harper himself was unconvinced of the science of climate change, once referring to it as a “socialist scheme to suck money out of wealth producing nations” (Harrison 2007, quoting the *Globe and Mail*, April 8, 2005, A5).

Despite the reluctance of the Harper government to support anything but voluntary commitments to emissions reductions, local governments are taking actions to reduce emissions. According to the Federation of Canadian Municipalities, in 2007, 65 percent of all Canadians lived in municipalities that had formally committed to greenhouse gas emission reductions (Gore 2010). Provinces are also moving ahead by entering into cooperative arrangements with American states, such as the joint Climate Change Action Plan adopted by New England governors and Eastern Canadian premiers (Selin and Vandever 2005) and the Western Climate Initiative (WCI) that calls for a voluntary registry of emissions both north and south of the US–Canadian border (The Western Climate Initiative 2007).⁴ In contrast, the federal government seems to be more in line with the economically powerful province of Alberta which stands to lose a great deal of revenue if emission reductions slow or stop the tar sands exploration in the north, or if global commitments to reduce the consumption of fossil fuels destroy the markets for the oil produced from the tar sands operations.

An important factor in explaining why some states and provinces are moving forward with emissions reduction policies and others are not is the per capita emissions and sources of energy use in those states and provinces. In the case of Canada, Alberta, with the highest emissions of carbon per capita in Canada and an economic dependency on natural gas and oil production, has been reluctant to agree to any carbon emission reduction policies and actively fights against international targets such as the Kyoto Protocol, whereas Quebec, with some of the lowest per capita emissions of carbon in Canada and an economic base in renewable energy sources such as hydroelectric, has strongly supported international targets laid out in Kyoto and actively pursued regional and transnational efforts to develop even more stringent emission reductions. In the United States, while states such as California and New York have higher overall emissions of carbon, their per capita emissions are relatively low. Other states that have joined regional carbon reduction initiatives such as RGGI and WCI also have among the lowest per capita emissions (Gregg et al. 2009). Without greenhouse gas intensive economies, California and New York were able to exercise leadership more readily, while the two Canadian provinces (Alberta and Ontario)

most able to influence the Canadian national government's commitments and international leadership are heavily dependent on industries that rely heavily on the consumption of fossil fuels (Harrison and Sundstrom 2007).

While the case of North American climate policy is not the first time that states and provinces have taken the initiative in the face of national policies that are either non-existent or counter to regional interests, it is worth studying for what we can learn about international relations theory. Specifically, it is representative of a trend of shifting dynamics in the way international activity takes place and which entities are legitimately allowed to participate in those activities. Since the Treaty of Westphalia in 1648, the sovereignty of the nation-state and the nation as a unitary actor on the international stage have been bedrock assumptions of not only the theory of realism, but these ideas have set the foundation for international relations as a whole. The sovereignty of the unitary nation-state was the hegemonic paradigm organizing the international system and the study of that system. In the past several decades, that hegemony has been challenged by several non-state actors including non-governmental organizations (NGOs), multinational corporations (MNCs), intergovernmental organizations such as the United Nations or the EU, and now there is a growing independence to regional and sub-national entities such as states, provinces and other regional designations. The nation-state, as unitary actor, can no longer say the first and last word on international affairs. We should expect the issue of climate change, with its heavy reliance on states, provinces, and regions for the implementation of agreed upon policies, would also see a host of initiatives such as WCI and RGGI in the face of unacceptable action or inaction on the part of the national government (Rabe 2004). If the California governor's regional conferences on climate change become the norm, then it is likely to greatly complicate the ability to reach consensus among all relevant actors at an international level. It will give voice to a number of regions whose participation as independent actors in international conversations might conflict with the sovereign voice of their national governments—such as has been the case with Tibet, the Basque movement in northern Spain, the Kurds, the Chechnyans, and the indigenous populations in a number of countries. Perhaps this is why the Quebec government is so strongly in favor of the regional co-operations and conferences. While they have little to lose by more stringent climate control standards, they have much to gain if they can operate as an independent actor on the international stage. By operating independently and taking a leadership role in the regional/international climate regime, Quebec has de facto been recognized as distinct from the Canadian national government in Ottawa.

Federalism and public lands control

Another significant difference between Canada and the United States that could be instructive for US scholars to pay attention to regarding environmental policy arises from the comparison of federal systems as they relate to the control of natural resources. In the United States, much of the West is still public lands controlled by the federal government. By government regulation, all leases of mineral development are handled by the Bureau of Land Management (BLM) regardless of whether they are on public or private land, assuming the federal government has mineral rights under the private land.⁵ Since 1982, the US federal government has offered 229 million acres of public and private land in twelve western states for oil and gas development, which is an area greater than the combined size of Colorado, New Mexico, and Arizona (Environmental Working Group 2006). Thus, the control of much of the development of energy resources in the western United States is directly in the hands on the federal government and its agencies.

Nothing could be further from the case in Canada. The Dominion Lands Act of 1872 originally provided for federal control of natural resources in the Northwest Territories (NWT) and the provinces of Alberta, Saskatchewan, and Manitoba after 1905. However, in 1930 these provinces gained control over their own resources, as is the case with all other provinces according to the Canadian constitution (Brownsey 2005). Section 109 of the Constitution Act ensures that provinces will control the lands and resources within their borders (Carins 1992). For example, the government of Alberta controls about 81 percent of all mineral rights in the province and controls about 60 percent of the surface area of the province (Government of Alberta 2007). This control of resources by the provinces has set up a seemingly endless tension between the resource-rich provinces of the prairies and the west on the one hand and the federal government in Ottawa on the other.

Although the implications of differing federal land management policies might seem obvious for resource extraction, they are not limited to the development of resources. In the United States, federal land management is divided up into a variety of agencies with differing management mandates ranging from the preservation-oriented National Parks Service (NPS) to the multi-use-oriented Bureau of Land Management (BLM). Although they are all agencies of the federal government, their mandates reflect the variety of approaches to public lands management that have developed throughout the history of the United States. Even within the agencies themselves, as circumstances change they must adapt to new expectations for public lands. Although Canada has federal agencies, such as Parks Canada, for the management of public lands, because of the provincial role in resource management of Crown lands each province has developed its own agencies with very different approaches to public lands management. The flexibility of such a decentralized model might be an instructive case for US public lands agencies as they try to adapt to changing expectations.

Toward a research agenda

As these cases make clear, Canadian environmental policy provides a tremendous opportunity for research by US scholars as they try to understand the interdependence of environmental policies in North America and develop new strategies for addressing environmental issues common to both countries. In the areas of climate change, fisheries and wildlife, energy policy, shared water resources, and public lands management, Canada is a model environmental nation for developing an understanding of the strengths and weaknesses of US environmental policy and the interconnection between the policies of the two countries. Perhaps in the era of budgetary cutbacks in higher education, some US institutions might be tempted to reduce or eliminate Canadian Studies programs, but this research agenda indicates that in the area of environmental policy this would be a serious mistake. Even if there is no formal Canadian Studies program at an institution, it is hoped these case studies offer the possibility to incorporate Canada as a model in broader-based courses on environmental study and public policy. There is much work to be done, and dialogues such as this are important for scholars on both sides of the border to develop partnerships to advance our common understanding of the North American environment we so clearly share.

Notes

1. This article was originally prepared for Enders Symposium "The US-Canadian Relationship as Seen from South of the Border" Seattle, Washington, October 29, 2010. I would like to thank the Association for Canadian Studies in the United States in partnership with the Thomas

- O. Enders Foundation and the Canadian Studies Center, University of Washington, for their sponsorship of the symposium. I would also like to thank Heather Smith of the University of Northern British Columbia and the other symposium participants for their thoughtful comments and suggestions on my work here.
2. For the purpose of this research, I define “model” operationally as an example to learn from. This is not to suggest that Canadian Environmental Policy is not without its flaws, but as with any good model, there are lessons to be learned from a careful comparative case study of Canada by US scholars. As a professor, I needed a model for a diverse set of courses that could benefit from a case study in the areas of public policy, international relations, and political theory. The study of Canadian environmental policy makes Canada a model nation in all of these areas.
 3. This article is exploratory in nature and as such it will consider a variety of methodologies from pragmatic policy analysis to theory and discourse analysis. This approach is intended to demonstrate the wide range of research approaches applicable to Canadian environmental policy reflective of the diversity of groups within the US who should be considering the case of Canada from policymaker, to academic, to activist.
 4. The WCI built on existing greenhouse gas reduction efforts in the individual states as well as two existing regional efforts. In 2003, California, Oregon, and Washington created the West Coast Global Warming Initiative, and in 2006, Arizona and New Mexico launched the Southwest Climate Change Initiative. The Premiers of British Columbia, Manitoba, Ontario, and Quebec, and the governors of Montana and Utah have since joined the original five states in committing to tackle climate change at a regional level (The Western Climate Initiative 2007).
 5. For a detailed account of the policies of the BLM see (Bureau of Land Management 2004).

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TITLE: A Model Environmental Nation? Canada as a Case Study
for Informing US Environmental Policy
SOURCE: Am Rev Can Stud 41 no4 Wint 2011

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